

applications. Based on studies to date⁴, DRS systems are protected as long as the co-channel e.i.r.p density of 24 dBW/MHz toward specific satellite locations on the GSO is not exceeded. These locations for existing DRS systems are: 174 degrees W, 171 degrees W, 170 degrees W, 160 degrees W, 139 degrees W, 79 degrees W, 62 degrees W, 46 degrees W, 44 degrees W, 41 degrees W, 16 degrees W, 16.4 degrees E, 59 degrees E, 85 degrees E, 90 degrees E, 95 degrees E, 121 degrees E, 153.8 degrees E.

In the case of LMCS, the e.i.r.p density limit of 24 dBW/MHz should be considered as an aggregate of all co-channel transmitters (both hub and subscribers) in a total area visible to a DRS satellite location.

Application of RR 2508

This RR restricts the transmitter power delivered to the antenna of a station in the fixed service to +10 dBW due to the assumption of the use of a high gain antenna in a point-to-point environment. Cases where a single hub transmitter power exceeds 10 watts over a large bandwidth may be permitted, subject to approval by the Department. LMCS operators are encouraged to contact the Department as early as possible if they are planning to use such equipment.

Subscriber transmitter and e.i.r.p power limits

The limits given above also apply to the subscriber transmitters including the need to assess the impact of aggregate interference at the DRS satellite locations. The information available to date for the transmissions from subscriber stations is very limited. Many different scenarios are considered for the transmissions from subscribers depending on the nature of the application. Therefore it will be up to the operator to ensure that their implementations meet the above criteria.

⁴ Input Document to ITU-R JAH WP 7B/9D Doc. 7B43/9D70 "Considerations for Bandsharing Between the Inter-Satellite Service and the Fixed Service Employing Local Multipoint Communications Systems"

Power flux density (pfd) limits for the inter-satellite service

ITU RR 2578 specifies the pfd limits for the band 25.25-27.5 GHz for emissions from spacecraft in the inter-satellite service. These limits are as follows:

2578 The power flux-density at the Earth's surface produced by emissions from a space station, including emissions from a reflecting satellite, for all conditions and for all methods of modulation, shall not exceed the following values:

- 115 dB(W/m²) in any 1 MHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;
- 115 + 0.5 (Δ -5) dB(W/m²) in any 1 MHz band for angles of arrival (in degrees) between 5 and 25 degrees above the horizontal plane;
- 105 dB(W/m²) in any 1 MHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

These limits relate to the power flux-density which would be obtained under assumed free-space propagation conditions. The LMCS operators should consider the above pfd values from inter-satellite systems in their system design.

Coordination Considerations

The following requirements should facilitate inter-system coordination of LMCS systems, and should allow compatibility with inter-satellite applications in the band 25.5-27.5 GHz. These requirements are based on current information available on LMCS technology.

1. Frequency tolerance for LMCS equipment should be 0.001% or better.
2. Minimum spectral efficiency should be 1 bit/sec/Hz.
3. Only orthogonally polarized signals (i.e. horizontal or vertical) should be employed in order to benefit from cross-polar isolation and to maximize frequency re-use.
4. In addition to accounting for aggregate levels, the maximum e.i.r.p density for a single station shall not exceed -52 dBW/Hz, except in cases of hub-to-hub interconnection which will be considered on a case by case basis.

5. Inter-system coordination within the same area and with the adjacent areas is the responsibility of the LMCS operators. Industry Canada should be advised of any difficulties.

6. Coordination of LMCS systems in the border area will be required with the terrestrial systems in the U.S. There is no existing coordination agreement with the U.S. at this time for this frequency band. Until such time as an agreement is developed, Industry Canada will coordinate any systems located within 60 km of the border. This distance is currently used for the coordination of fixed systems in the 23 GHz. band. LMCS operators are encouraged to provide information to Industry Canada for any coordination carried out with U.S. operators.

The above technical requirements in this appendix are subject to change in accordance with future changes to the ITU recommendations and radio regulations, as well as any additional information from LMCS operators and equipment manufacturers.

Appendix B Table 1 Service Areas and Fees

Service Area	Number of Households	Block A		Block B	
		✓	Fee (\$)	✓	Fee (\$)
Barrie	24 010		12 005		12 005
Belleville	24 265		12 132		12 132
Brandon	14 695		7 347		7 347
Brantford	33 775		16 887		16 887
Brockville	11 410		5 705		5 705
Calgary	266 370		133 185		133 185
Charlottetown	13 530		6 765		6 765
Chatham	17 815		8 907		8 907
Chicoutimi/Jonquière/ Alma	61 130		30 565		30 565
Cobourg/Port Hope	11 750		5 875		5 875
Cornwall	18 500		9 250		9 250
Courtenay	24 175		12 087		12 087
Drummondville	21 585		10 792		10 792
Edmonton	286 385		143 192		143 192
Fort McMurray	11 295		5 647		5 647
Fredericton	25 215		12 607		12 607
Granby	21 145		10 572		10 572
Grande Prairie	10 105		5 052		5 052

Service Area	Number of Households	Block A		Block B	
		✓	Fee (\$)	✓	Fee (\$)
Guelph/Kitchener	156 275		78 137		78 137
Halifax	106 050		53 025		53 025
Joliette	13 370		6 685		6 685
Kamloops	25 170		12 585		12 585
Kelowna	54 050		27 025		27 025
Kingston	41 445		20 722		20 722
Lethbridge	25 180		12 590		12 590
London\Woodstock\St Thomas	150 140		75 070		75 070
Medicine Hat	17 000		8 500		8 500
Moncton	30 165		15 082		15 082
Montréal	1 268 660		634 330		634 330
Moose Jaw	13 385		6 692		6 692
Nanaimo	41 600		20 800		20 800
Niagara\Ste.Catharines\Welland	106 610		53 305		53 305
North Bay	19 470		9 735		9 735
Orillia	11 390		5 695		9 695
Ottawa\Hull	338 295		169 147		169 147
Pembroke	12 070		6 035		6 035
Penticton	12 445		6 222		6 222
Peterborough	28 510		14 255		14 255
Prince Albert	13 670		6 835		6 835
Prince George	23 750		11 875		11 875

Service Area	Number of Households	Block A		Block B	
		✓	Fee (\$)	✓	Fee (\$)
Quebec	234 330		117 165		117 165
Red Deer	21 460		10 730		10 730
Regina	67 820		33 910		33 910
Rimouski	14 515		7 257		7 257
Rouyn-Noranda	10 960		5 480		5 480
Saint John	35 835		17 917		17 917
Samia	28 195		14 097		14 097
Saskatoon	71 855		35 927		35 927
Sault Ste Marie	30 650		15 325		15 325
Sherbrooke	57 535		28 767		28 767
Sydney	33 055		16 527		16 527
Sorel	16 430		8 215		8 215
St-Hyacinthe	16 055		8 027		8 027
St. John's	49 965		24 982		24 982
Stratford	11 130		5 565		5 565
Sudbury	46 270		23 135		23 135
Thunder Bay	43 210		21 605		21 605
Timmins	13 680		6 840		6 840
Toronto/Hamilton/ Oshawa	1 614 405		807 202		807 202
Trois-Rivieres	69 550		34 775		34 775
Val-D'Or	10 345		5 172		5 172
Vancouver	662 460		331 230		331 230
Victoria	122 730		61 365		61 365
Victoriaville	13 370		6 685		6 685
Windsor/Leamington	104 520		52 260		52 260
Winnipeg	243 975		121 987		121 987

Appendix B Table 2 Definition of Service Areas

The definition of the service areas was made using Canada Post Corporation's Forward Sortation Areas (FSA) and associated census information. FSAs are the areas represented by the first three characters of the postal code. There are two types of FSA's: urban and rural. Urban FSAs are served by approximately 25 postal walks. Rural FSAs encompass not more than 199 rural postal offices. Only urban FSAs were considered in the determination of LMCS service areas because the population density of rural FSAs was believed to be too low to render LMCS service economically viable. Their non-inclusion here does not preclude any interested party from applying to provide service in these areas.

Based on the 1991 census information for each FSA, the FSAs were grouped to form service areas. An agglomeration of adjacent FSAs must consist of at least 10 000 households to be considered for an LMCS service area. Two FSAs are considered adjacent if they are separated by less than 8 kilometres.

Graphical representations of the service areas are provided in Appendix E.

Service Area	Forward Sortation Areas
Barrie	L4N, L4M
Belleville	K8P, K8R, K8V, K8N
Brandon	R7B, R7C, R7A
Brantford	N3P, N3R, N3S, N3T, N3V, N3L
Brockville	K6V, K6T
Calgary	T1Y, T2A, T2B, T2C, T2E, T2G, T2H, T2J, T2K, T2L, T2M, T2N, T2P, T2R, T2S, T2T, T2V, T2W, T2X, T2Y, T2Z, T3A, T3B, T3C, T3E, T3G, T3H, T3J, T3K, T3L, T4A, T4B, T1X
Charlottetown	C1A, C1B, C1C, C1E
Chatham	N7M, N7L
Chicoutimi/Jonquière/Alma	G7G, G7H, G7J, G7K, G7S, G7T, G7X, G7Y, G7Z, G8A, G8B, G8C, G7B
Cobourg/Port Hope	L1A, K9A

Service Area	Forward Sortation Areas
Cornwall	K6J, K6K, K6H
Courtenay	V9H, V9J, V9M, V9N, V9W, V9G
Drummondville	J2B, J2C, J2E, J2A
Edmonton	T5A, T5B, T5C, T5E, T5G, T5H, T5J, T5K, T5L, T5M, T5N, T5P, T5R, T5S, T5T, T5V, T5W, T5X, T5Y, T5Z, T6A, T6B, T6C, T6E, T6G, T6H, T6J, T6K, T6L, T6M, T6N, T6P, T6R, T6S, T6T, T6V, T6W, T6X, T7X, T7Y, T7Z, T8A, T8B, T8C, T8E, T8G, T8H, T8L, T8N, T9E, T4X
Fort McMurray	T9J, T9K, T9H
Fredericton	E3A, E3B, E3C, E3E, E2V
Granby	J2H, J2J, J2G
Grande Prairie	T8W, T8X, T8V
Guelph/Kitchener	N1E, N1G, N1H, N1J, N1K, N1L, N1P, N1R, N1S, N1T, N2A, N2B, N2C, N2E, N2G, N2H, N2J, N2K, N2L, N2M, N2N, N2P, N2R, N2S, N2T, N2V, N3B, N3C, N3E, N3H, N1C
Halifax	B2V, B2W, B2X, B2Y, B2Z, B3A, B3B, B3G, B3H, B3J, B3K, B3L, B3M, B3N, B3P, B3R, B3S, B3T, B4A, B4B, B4C, B4E, B4G, B2T
Joliette	J6E
Kamloops	V1S, V2B, V2C, V2E, V2H, V1P
Kelowna	V1K, V1T, V1V, V1W, V1X, V1Y, V1Z, V4T, V1B
Kingston	K7L, K7M, K7N, K7P, K7K
Lethbridge	T1J, T1K, T1M, T1H
London/Woodstock/St Thomas	N4T, N4V, N5C, N5L, N5P, N5R, N5V, N5W, N5X, N5Y, N5Z, N6A, N6B, N6C, N6E, N6G, N6H, N6J, N6K, N6L, N6M, N6N, N4S
Medicine Hat	T1B, T1C, T1A
Moncton	E1B, E1C, E1E, E1G, E1A

Service Area	Forward Sortation Areas
Montréal	H1B, H1C, H1E, H1G, H1H, H1J, H1K, H1L, H1M, H1N, H1P, H1R, H1S, H1T, H1V, H1W, H1X, H1Y, H1Z, H2A, H2B, H2C, H2E, H2G, H2H, H2J, H2K, H2L, H2M, H2N, H2P, H2R, H2S, H2T, H2V, H2W, H2X, H2Y, H2Z, H3A, H3B, H3C, H3E, H3G, H3H, H3J, H3K, H3L, H3M, H3N, H3P, H3R, H3S, H3T, H3V, H3W, H3X, H3Y, H3Z, H4A, H4B, H4C, H4E, H4G, H4H, H4J, H4K, H4L, H4M, H4N, H4P, H4R, H4S, H4T, H4V, H4W, H4X, H4Y, H4Z, H5A, H5B, H7A, H7B, H7C, H7E, H7G, H7H, H7J, H7K, H7L, H7M, H7N, H7P, H7R, H7S, H7T, H7V, H7W, H7X, H7Y, H8N, H8P, H8R, H8S, H8T, H8Y, H8Z, H9A, H9B, H9C, H9E, H9G, H9H, H9J, H9K, H9P, H9R, H9S, H9W, H9X, J2W, J2X, J2Y, J3A, J3B, J3E, J3G, J3H, J3L, J3M, J3N, J3V, J3X, J3Y, J3Z, J4B, J4G, J4H, J4J, J4K, J4L, J4M, J4N, J4P, J4R, J4S, J4T, J4V, J4W, J4X, J4Y, J4Z, J5A, J5R, J5Y, J5Z, J6A, J6J, J6K, J6N, J6R, J6S, J6T, J6V, J6W, J6X, J6Y, J6Z, J7A, J7B, J7C, J7E, J7G, J7H, J7J, J7K, J7L, J7N, J7P, J7R, J7V, J7W, J7Y, J7Z, J8H, H1A
Moose Jaw	S6J, S6K, S6H
Nanaimo	V9P, V9R, V9S, V9T, V9V, V9Y, V9K
Niagara\Ste.Catharines\Welland	L2G, L2H, L2J, L2M, L2N, L2P, L2R, L2S, L2T, L2V, L2W, L3B, L3C, L3K, L2E
North Bay	P1B, P1C, P1A
Orillia	L3V
Ottawa\Hull	J8M, J8P, J8R, J8T, J8V, J8X, J8Y, J8Z, J9A, J9H, J9J, K1A, K1B, K1C, K1E, K1G, K1H, K1J, K1K, K1L, K1M, K1N, K1P, K1R, K1S, K1T, K1V, K1W, K1Y, K1Z, K2A, K2B, K2C, K2E, K2G, K2H, K2J, K2K, K2L, K2M, K2P, K2R, K2S, K2T, K2V, K2W, K4A, K4B, K4C, K4K, K4M, K4R, K7A, K7C, K7H, J8L
Pembroke	K8B, K8C, K8H, K8A
Penticton	V2A

Service Area	Forward Sortation Areas
Peterborough	K9J, K9K, K9L, K9H
Prince Albert	S6W, S6X, S6V
Prince George	V2K, V2L, V2M, V2N, V1H
Québec	G1B, G1C, G1E, G1G, G1H, G1J, G1K, G1L, G1M, G1N, G1P, G1R, G1S, G1T, G1V, G1W, G1X, G1Y, G2A, G2B, G2C, G2E, G2G, G2J, G2K, G2L, G2M, G2N, G3A, G3E, G3J, G3K, G6C, G6J, G6K, G6V, G6W, G6X, G6Z, G7A, G1A
Red Deer	T4P, T4R, T4N
Regina	S4N, S4P, S4R, S4S, S4T, S4V, S4W, S4X, S4Y, S4Z, S4L
Rimouski	G5M, G5N, G5L
Rouyn-Noranda	J9X
Saint John	E2G, E2H, E2J, E2K, E2L, E2M, E2N, E2P, E2R, E2S, E2E
Sarnia	N7T, N7V, N7W, N7X, N7S
Saskatoon	S7J, S7K, S7L, S7M, S7N, S7P, S7R, S7S, S7T, S7V, S7H
Sault Ste Marie	P6B, P6C, P6A
Sherbrooke	J1G, J1H, J1J, J1K, J1L, J1M, J1N, J1X, J1E
Sydney	B1H, B1L, B1M, B1N, B1P, B1R, B1S, B1V, B2A, B1A
Sorel	J3R, J3S, J3P
St-Hyacinthe	J2T, J2S
St. John's	A1B, A1C, A1E, A1G, A1K, A1L, A1N, A1S, A1W, A1X, A1A
Stratford	N5A, N5B, N4Z
Sudbury	P3B, P3C, P3E, P3G, P3L, P3N, P3P, P3Y, P3A
Thunder Bay	P7B, P7C, P7E, P7G, P7J, P7A
Timmins	P4P, P4R, P4N

Service Area	Forward Sortation Areas
Toronto/Hamilton/Oshawa	L1C, L1E, L1G, L1H, L1J, L1K, L1L, L1N, L1P, L1R, L1S, L1T, L1V, L1W, L1X, L1Y, L1Z, L3M, L3P, L3R, L3S, L3T, L3X, L3Y, L3Z, L4A, L4B, L4C, L4E, L4G, L4H, L4J, L4K, L4L, L4P, L4S, L4T, L4V, L4W, L4X, L4Y, L4Z, L5A, L5B, L5C, L5E, L5G, L5H, L5J, L5K, L5L, L5M, L5N, L5P, L5R, L5S, L5T, L5V, L5W, L6A, L6B, L6C, L6E, L6G, L6H, L6J, L6K, L6L, L6M, L6R, L6S, L6T, L6V, L6W, L6X, L6Y, L6Z, L7A, L7B, L7C, L7E, L7G, L7J, L7L, L7M, L7N, L7P, L7R, L7S, L7T, L7V, L8E, L8G, L8H, L8J, L8K, L8L, L8M, L8N, L8P, L8R, L8S, L8T, L8V, L8W, L9A, L9B, L9C, L9G, L9H, L9J, L9K, L9L, L9N, L9P, L9T, M1B, M1C, M1E, M1G, M1H, M1J, M1K, M1L, M1M, M1N, M1P, M1R, M1S, M1T, M1V, M1W, M1X, M2H, M2J, M2K, M2L, M2M, M2N, M2P, M2R, M3A, M3B, M3C, M3H, M3J, M3K, M3L, M3M, M3N, M4A, M4B, M4C, M4E, M4G, M4H, M4J, M4K, M4L, M4M, M4N, M4P, M4R, M4S, M4T, M4V, M4W, M4X, M4Y, M5A, M5B, M5C, M5E, M5G, M5H, M5J, M5K, M5L, M5M, M5N, M5P, M5R, M5S, M5T, M5V, M5W, M5X, M6A, M6B, M6C, M6E, M6G, M6H, M6J, M6K, M6L, M6M, M6N, M6P, M6R, M6S, M7A, M8V, M8W, M8X, M8Y, M8Z, M9A, M9B, M9C, M9L, M9M, M9N, M9P, M9R, M9V, M9W, L1B
Trois-Rivieres	G8V, G8W, G8Y, G8Z, G9A, G9B, G9C, G9N, G9P, G9R, G9T, J3T, G8T
Val-D'Or	J9P

Service Area	Forward Sortation Areas
Vancouver	V2P, V2R, V2S, V2T, V2V, V2W, V2X, V2Y, V2Z, V3A, V3B, V3C, V3E, V3G, V3H, V3J, V3K, V3L, V3M, V3N, V3P, V3R, V3S, V3T, V3V, V3W, V3X, V3Y, V3Z, V4A, V4B, V4C, V4E, V4G, V4K, V4L, V4M, V4N, V4P, V4R, V4S, V4W, V4X, V5A, V5B, V5C, V5E, V5G, V5H, V5J, V5K, V5L, V5M, V5N, V5P, V5R, V5S, V5T, V5V, V5W, V5X, V5Y, V5Z, V6A, V6B, V6C, V6E, V6G, V6H, V6J, V6K, V6L, V6M, V6N, V6P, V6R, V6S, V6T, V6V, V6W, V6X, V6Y, V6Z, V7A, V7B, V7C, V7E, V7G, V7H, V7J, V7K, V7L, V7M, V7N, V7P, V7R, V7S, V7T, V7V, V7W, V7X, V7Y, V1M
Victoria	V8L, V8M, V8N, V8P, V8R, V8S, V8T, V8V, V8W, V8X, V8Y, V8Z, V9A, V9B, V9C, V9E, V9L, V8K
Victoriaville	G6R, G6S, G6T, G6P
Windsor/Leamington	N8M, N8N, N8P, N8R, N8S, N8T, N8V, N8W, N8X, N8Y, N9A, N9B, N9C, N9E, N9G, N9H, N9J, N9K, N9V, N9Y, N8H
Winnipeg	R2E, R2G, R2H, R2J, R2K, R2L, R2M, R2N, R2P, R2R, R2V, R2W, R2X, R2Y, R3A, R3B, R3C, R3E, R3G, R3H, R3J, R3K, R3L, R3M, R3N, R3P, R3R, R3S, R3T, R3V, R3W, R3X, R3Y, R4A, R4H, R4J, R5A, R2C

Appendix C Release of Information under the Access to Information Act

The questions below are used during any review of information with respect to section 20(1) of the Access to Information Act.

Section 20(1)(a) of the Access to Information Act

1. Is any information considered to be a "trade secret"?
2. If so, in what way is the information a "trade secret"?

For a record to qualify as a trade secret it must meet all of the following requirements:

1. it must consist of information;
2. the information must be secret in an absolute or relative sense, that is, known only by one or a relatively small number of persons;
3. the possessor of the information must demonstrate that they have acted with the intention to treat the information as secret;
4. the information must be capable of industrial or commercial applications; and
5. the possessor must have an interest (eg. an economic interest) worthy of legal protection.

Information or data not meeting the requirements of a "trade secret" may nevertheless qualify for exemption under other provisions applying to section 20(1).

Section 20(1)(b) of the Access to Information Act

1. Is the information financial, commercial, scientific or technical information?
2. Who provided the information to the department?
3. Has the information been consistently treated as confidential?
4. What measures have been taken to consistently treat the information as confidential?
5. Is any information in the records publicly known or readily available upon request from the third party itself or another source?

Section 20(1)(c) of the Access to Information Act

1. Could the disclosure of information reasonably be expected to result in material financial loss to you?
2. Could the disclosure of the information reasonably be expected to result in material financial gain to someone else?
3. In what way could there be a material financial loss or gain resulting from the disclosure of information?
4. Could the disclosure of information prejudice your competitive position?
5. Describe in what way there could be a prejudice to your competitive position by the disclosure of the information.

Section 20(1)(d) of the Access to Information Act

1. Could the disclosure of the information reasonably be expected to interfere with contractual or other negotiations of your firm/company?
2. If so, in what way?
3. Are such contractual or other negotiations now underway or are they clearly expected in the near future?

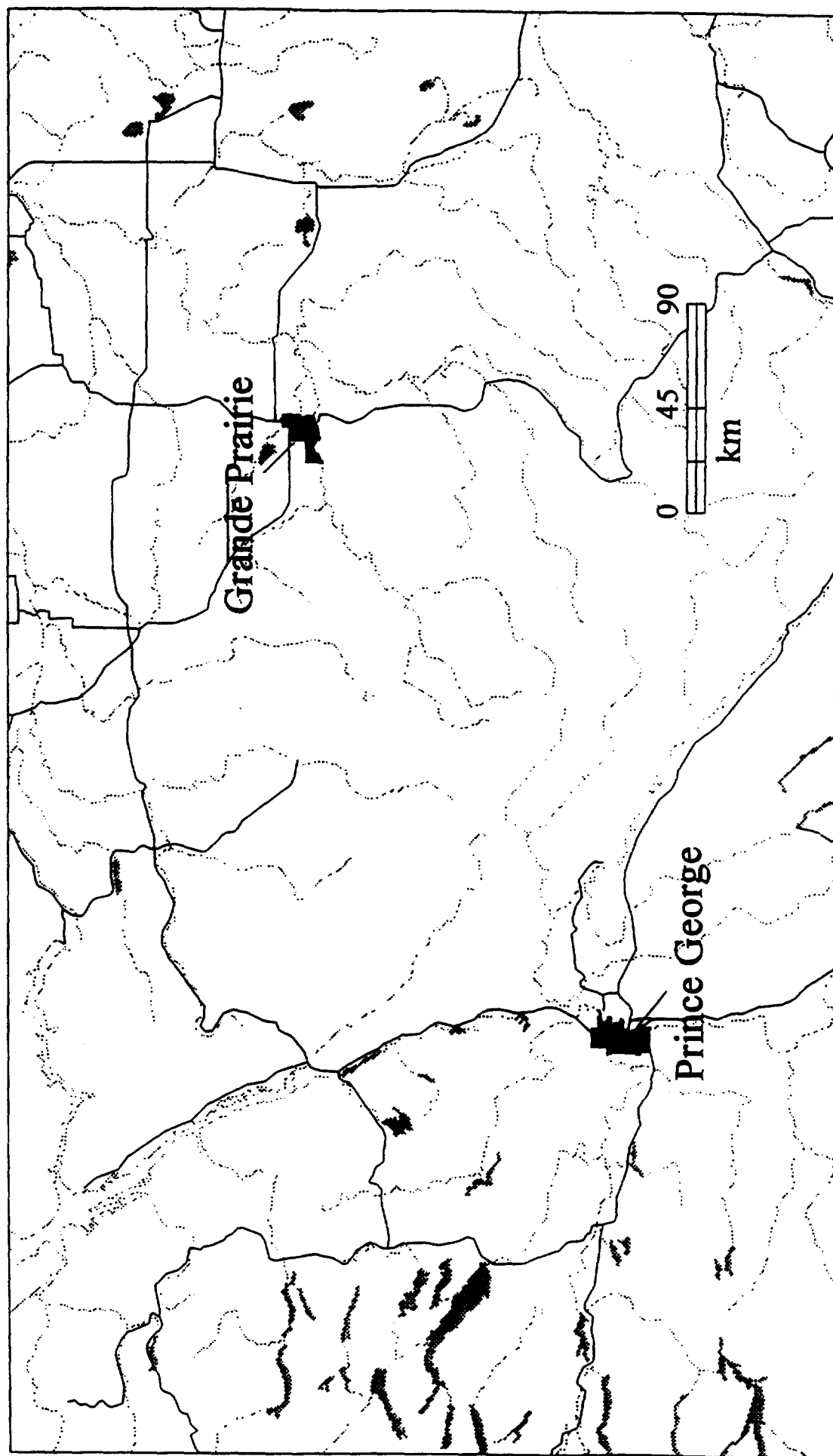
Appendix D Information Related to Ownership and Control

- 1. Incorporation documents**
 - 1.1 The incorporating documents, including any by-laws relating to control matters, for the company and any related holding company.**
- 2. Shareholdings**
 - 2.1 The details of the authorized and issued shares for each class of shares for the company and any holding company.**
 - 2.2 The details of the rights, privileges, restrictions and conditions of each class of shares for the company and any holding company.**
 - 2.3 The details of the beneficial ownership by Canadians (as defined in the Canadian Telecommunications Common Carrier Ownership and Control Regulations), and by non-Canadians, of each class of shares for the company and any holding company.**
 - 2.4 The copies of all shareholder agreements for the company and any holding company.**
- 3. Directors**
 - 3.1 The name and citizenship of each member of the board of directors of the company and any holding company.**
 - 3.2 The details of any agreements or arrangements related to the election of directors of the company and any holding company.**
- 4. Officers**
 - 4.1 The name and citizenship of each officer, and office held, of each officer of the company and any holding company.**
 - 4.2 The details of any agreements or arrangements related to the appointment of officers of the company and any holding company.**
- 5. Financing**
 - 5.1 The complete details of the financial structure of the company and any holding company, including the source of debt and equity financing.**

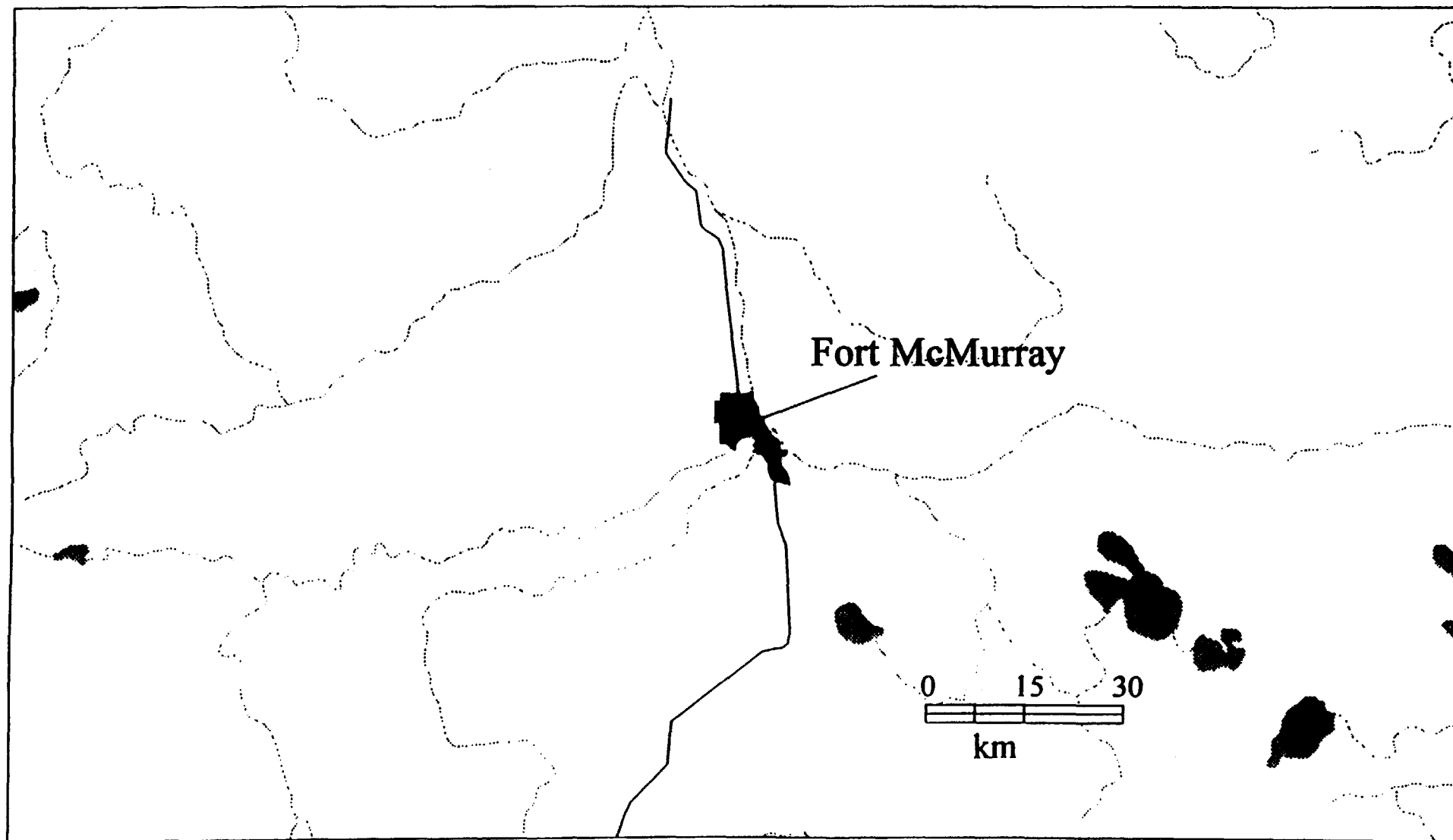
6. Agreements

- 6.1 Copies of any agreements between the company and any foreign partner or affiliate.**
- 6.2 The details of any other agreement or arrangement which could affect whether the company or any holding company are or are not controlled in fact by Canadians.**

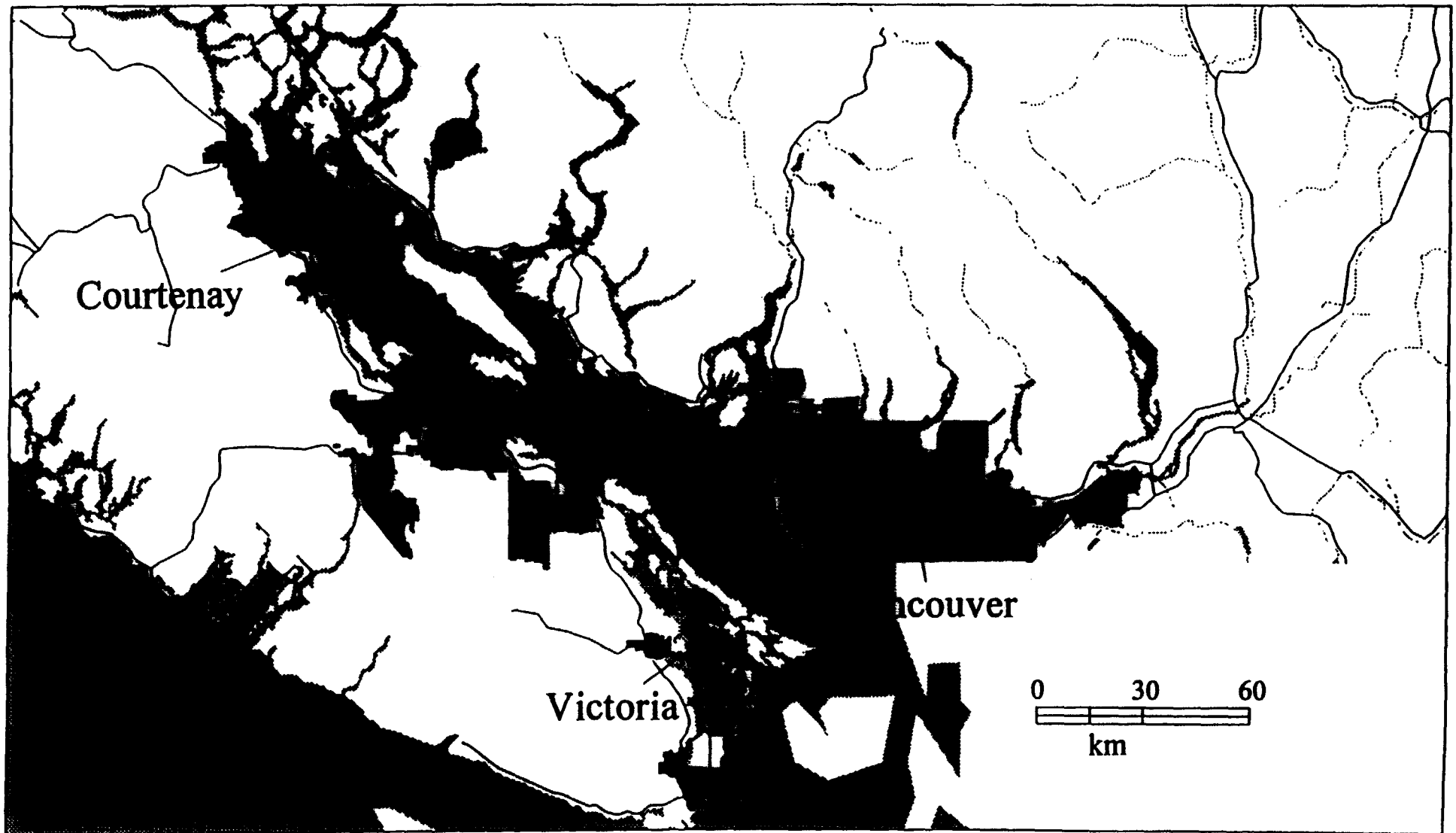
LMCS Service Areas - Aires de Service



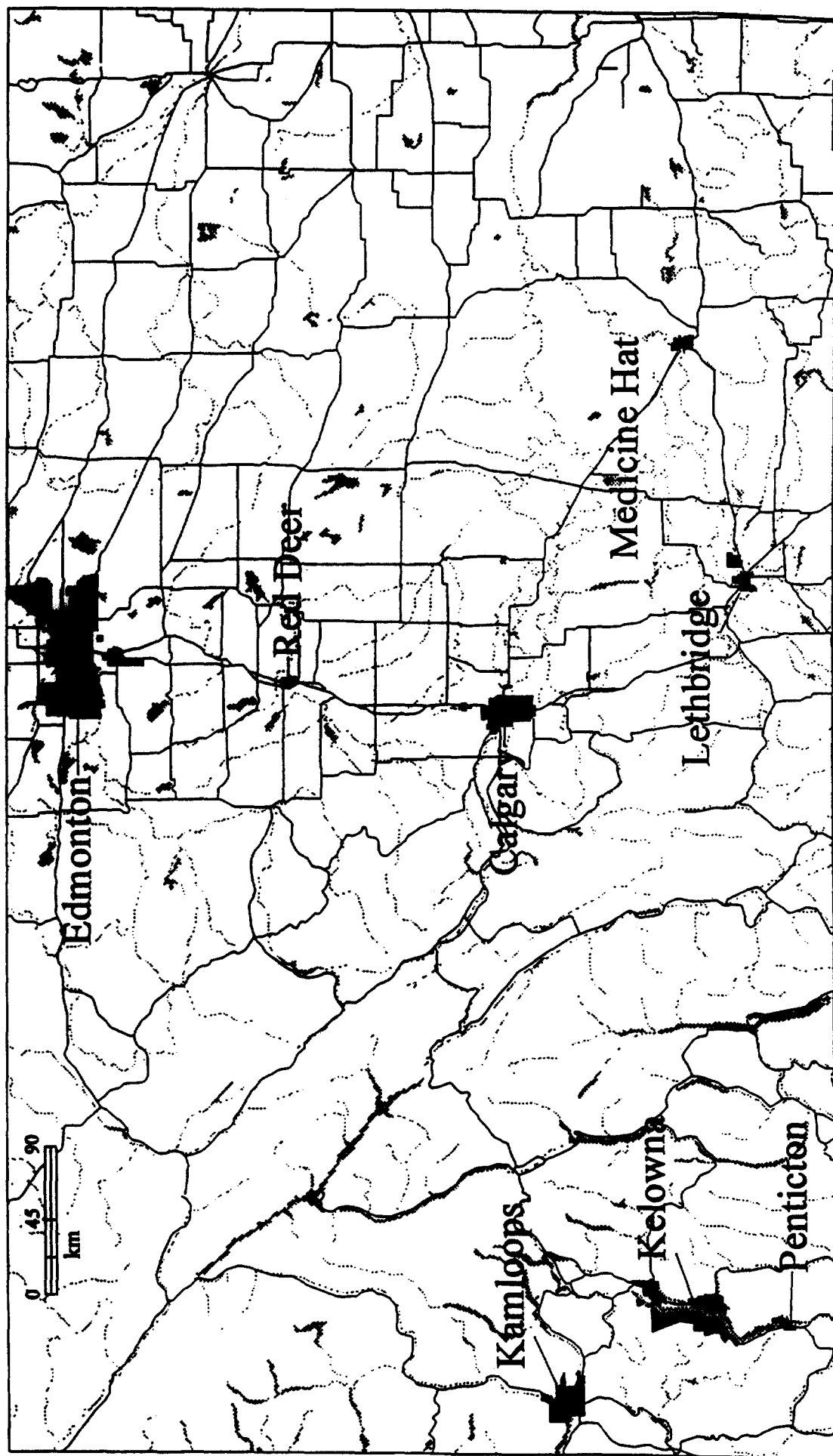
LMCS Service Areas - Aires de Service



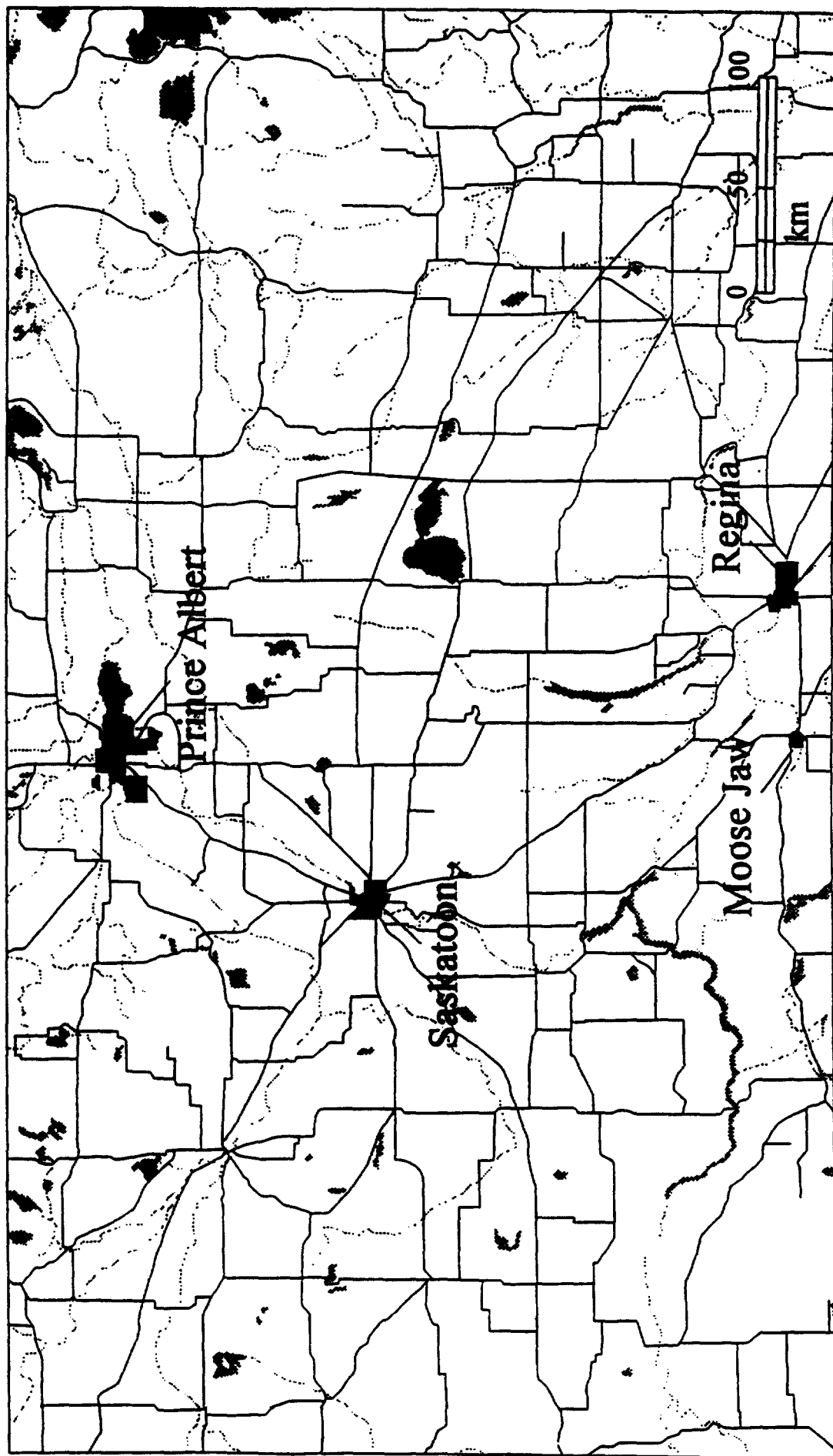
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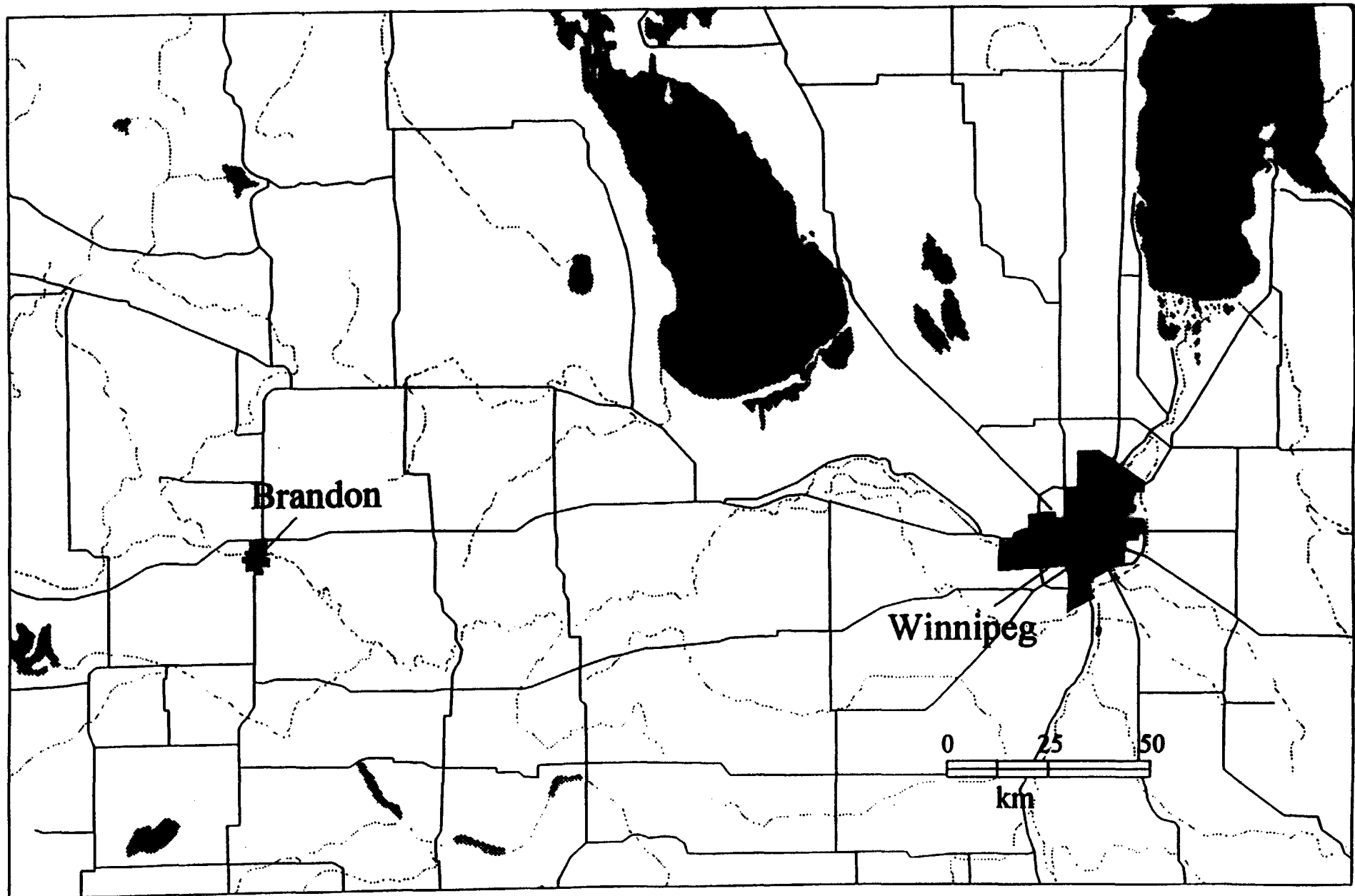
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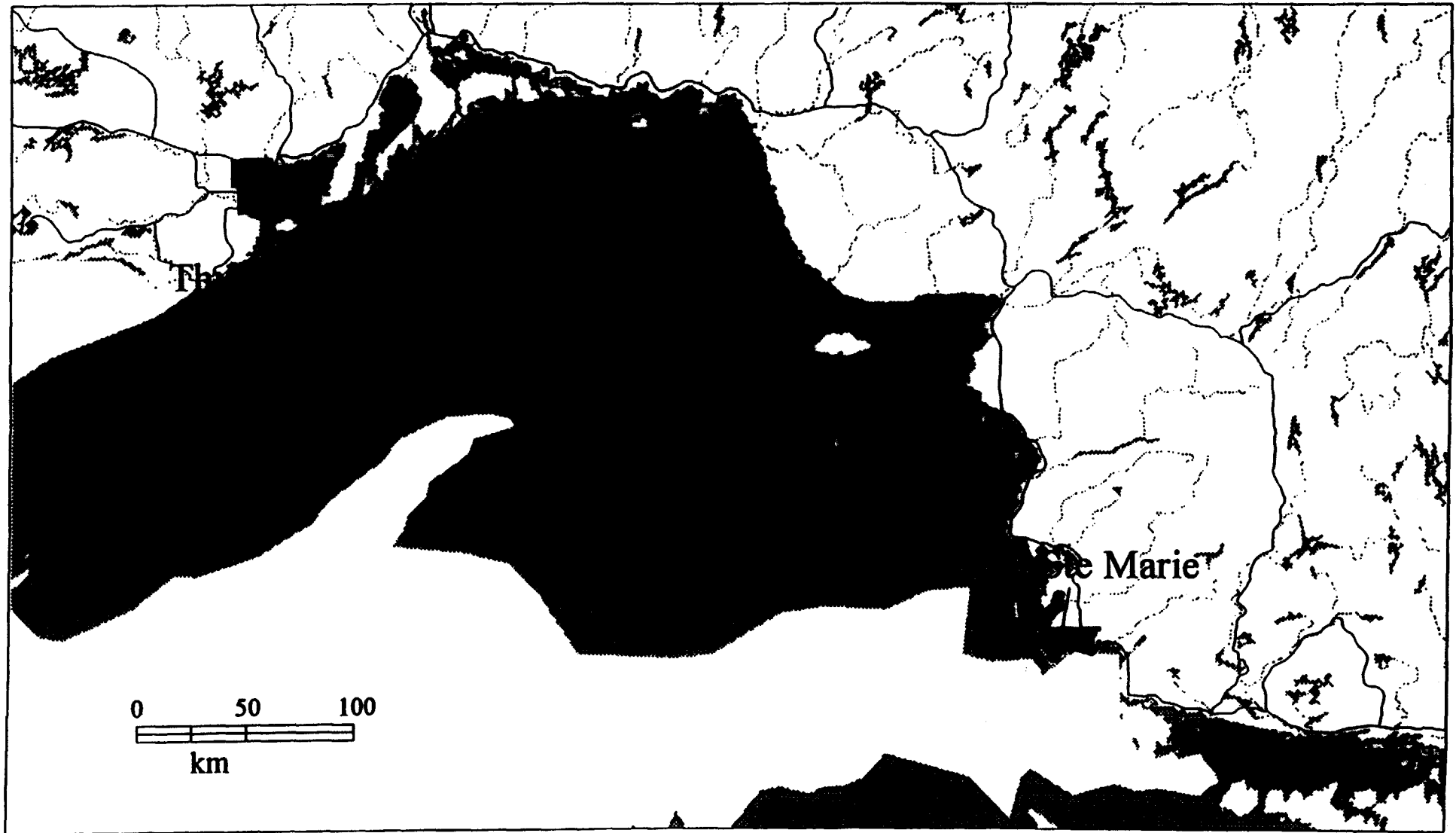
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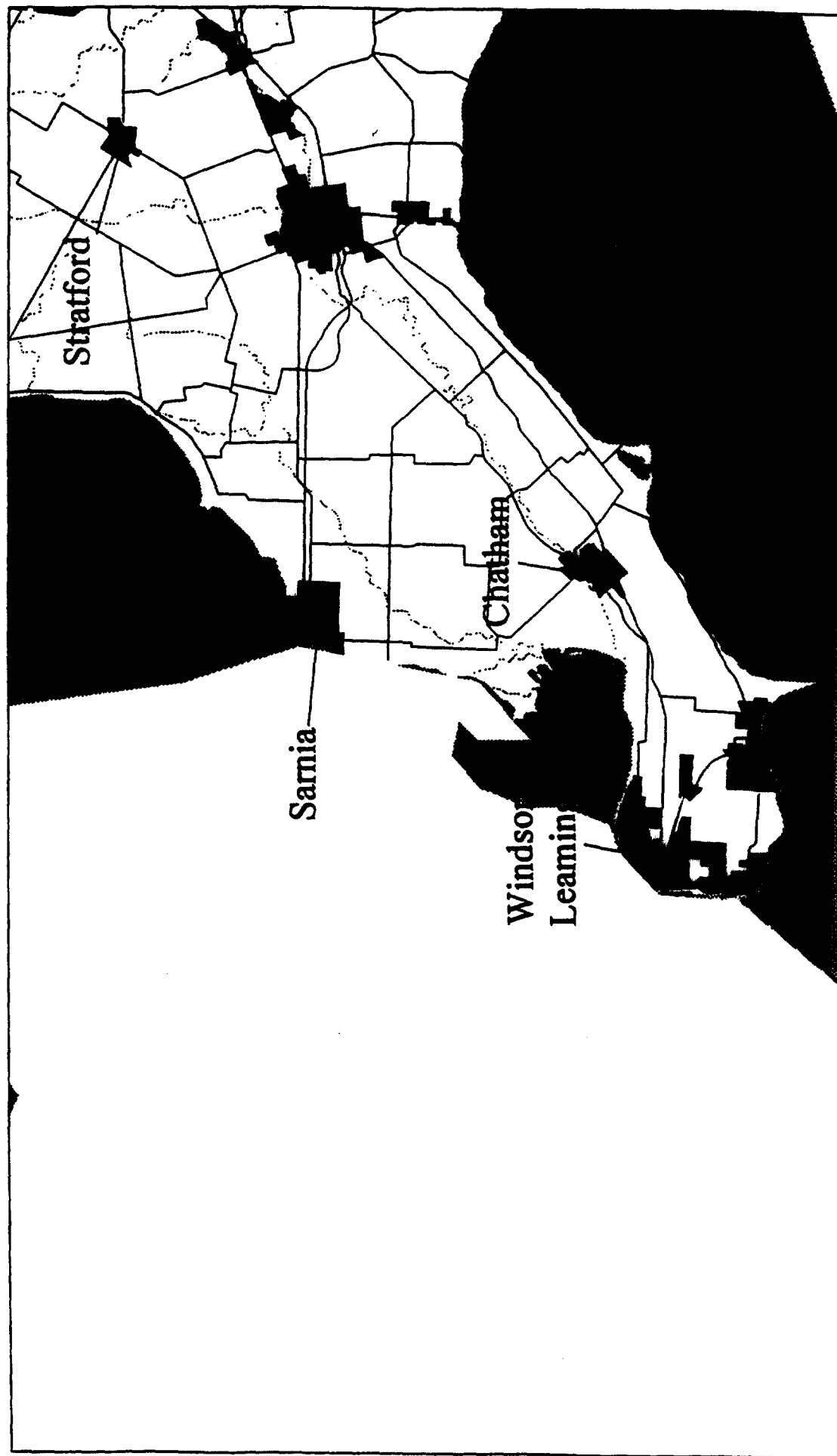
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